XTZ 99.38

High-End floor speaker

User manual

© 2008 XTZ AB , www.xtz.se

Table of contents

	Page:
Contents	3
About XTZ	3
Technical presentation	4
Preparations	6
Practice of sound / Installation and placement tips	7
Mounting /Area of usage	9
Sound adjustment	10
Technical specifications	12
Service & Support	13

Contents

Contents

Congratulations of your purchase the XTZ 99.38

When combined with surround audio/video electronics, you will experience sound of motion pictures or music records much deeply and naturally. Now when you watch your favourite movie or listen to your reference music CDs, you will hear and feel the sound surrounding you in the same way as originally intended by mastering engineers.

Read the manual before using the product and use all possibilities carefully.

About XTZ

Philosophy

Our reference and starting point is to recreate a natural sound, taking into account that acoustics always is a matter of taste.

XTZ Goal

Our main goal is to provide the best value for money.

Our concept:

- Cut down the numbers of middlemen

- Put more money on product quality
  and less on advertising.

- Manufacture cost-effective in large volume

- Provide perfect technical solutions

Contact

Website: **www.xtz.se**
E-mail: **info@xtz.se**

Technical presentation

Cabinet design	The box design with a narrow baffle and curved side - is not only an aesthetically neat shape, but also has some advantages in terms of acoustics, since nonparallel walls muffles internal resonances of the cabinet. Internally the cabinet is physically separated in two parts, one for the midrange and tweeter, and one for the woofer. This makes it possible to optimize the cabinet volume for the woofer. It also lets the midrange driver to accomplish the best possible sound without being interfered from the woofer. The internal boxes have non-parallel walls. The cabinet is made in sturdy MDF board, which has good sonic qualities. The cabinet is further strengthened with bars, which in total yields a very stable construction and to break up standing waves. Both boxes are filled with a combination of mineral wool and synthetic damping material, to effectively reduce internal resonances in the box.
Tweeter driver	We have chosen a ribbon tweeter which provides superior transient response and a very flat frequency response The ribbon cone is super light and only 18 microns thin. It is a sandwich construction of rosin-aluminium-rosin that has been hardened at 320 degrees Celsius. The magnet system is a 2 row high-efficient neodymium magnets in a moulded chassis of ceramic carbon steel. Fishbone shaped contactors in aluminium, yields a low connection resistance and good heat derivation. The driver has high power durability and handles frequencies up to 40000 Hz which makes it DVD-Audio and SACD-ready.
Woofer/midrange driver	After evaluating a large number of drivers from different manufacturers we selected one from Seas, a company that has a solid reputation in the area of high quality speaker drivers. You find Seas drivers in many well-known High End speakers. For woofer/midrange we decided on a 6,5" magnesium driver from the Seas Excel series that have extreme performance. We claim that finding a better 6,5" driver on the market is a very difficult task. The surface treated magnesium cone is extremely light but still extremely stiff and effectively reduces resonances. The rubber surround makes sure that no edge resonances are present. The moulded metal basket of "high flow" type that is acoustically transparent and high precision since the basket is shaped exactly due to moulding. This

	makes sure that the basket is very stable and efficiently reduces resonances. The basket is absolutely none magnetically, which contributes to a higher efficiency of the driver. A strong magnet combined with the light cone yields a high efficiency and a good transient response. Heavy copper rings mounted above and below the T-shaped pole piece reduces non linear and modulation distortion and increases the overload margin. The copper plating of the top and bottom plates along with a solid copper phase plug improves the heat conduction and thus contributes to the high power durability. Gold plated terminals reduce contact resistance and serves as anti-corrosion. Large windows in the basket both above and below the spider reduces sound reflection, air flow noise and cavity resonances.	
Woofer driver	Also for the bass register we selected a SEAS driver of the type coated paper, a very well-tried type with an unbeatable relation between price/performance. The coated paper cone is extremely light but still extremely stiff and effectively reduces resonances. The rubber surround makes sure that no edge resonances are present. The moulded metal basket of "high flow" type that is acoustically transparent and high precision since the basket is shaped exactly due to moulding. This makes sure that the basket is very stable and efficiently reduces resonances. The basket is absolutely none magnetically, which contributes to a higher efficiency of the driver. A strong magnet combined with the light cone yields a high efficiency and a good transient response. Gold plated terminal reduces contact resistance and serves as anti-corrosion. Large windows in the basket both above and below the spider reduces sound reflection, air flow noise and cavity resonances.	
Crossover / Binding post	For the 99.38, we have chosen to have an external cross over box. Having the cross over outside the box has some benefits. 1. Less affection of microphonic in the cross over. 2. Making the assembly easier and having the opportunity to drive the speaker fully active. The components being used in the cross over, are only of high quality, to get as small affection as possible on the signal	

	For the midrange and tweeter we have chosen a -12 dB crossover that has a fast transient response and a minimum of phase shiftings. For the woofer we have chosen a 24dB crossover. The connectors are gold-plated and of bi-wiring type so that you can connect to the amplifier with double cables (tri-wiring), or connect to two amplifiers (tri-amping) for further improving the sound.	

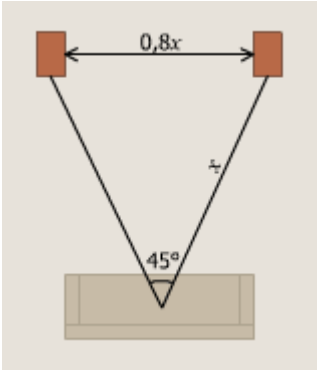
Preparations

Unpackning	Carefully unpack the speaker, and pay attention so you don't break anything. If possible, save the carton box for future transportations. If there should be damage on the loudspeaker, please contact your retailer.	

Accessories	Bass reflex plug (6 pcs) User manual Loops for level adjustment (6pcs)

Practice of sound / Installation and placement tips

	This chapter contains common information on loudspeaker placement and installation. This is general rules, so there are exceptions of some rules
In which room do you achieve the best sound?	No matter how good the equipment is, in the wrong listening environment it will inevitably sound bad. There are some basic rules concerning a proper loudspeaker installation:
Reflections	Carpets, curtains and soft furniture absorb mid range and high frequency sound, and this is preferable. Big empty area, on the contrary, reflects it and produces hard reflections that may lead to blurry dialogue. Apart from colouring the sound, also the perspective of the sound will deteriorate. Reflections in the room can roughly be compared to the reflections that yield ghost pictures on a TV screen.
Amplification of bass frequencies	A loudspeaker that is placed near a wall, ceiling or floor will amplify lower frequencies in a sometimes not desirable way (since it may lead to an indistinct sound recreation). This amplification becomes even more obvious if the loudspeaker is placed near a corner. Thus, for a sound as clear as possible, the loudspeaker should be placed at least 30 cm (about 12 inch) away from the wall Some constructions are made to be placed closed to a wall.
Furniture	Be aware that furniture may vibrate and thus create bad sound at loud bass.
Room dimension	Quadratic rooms or rooms where the length is exactly twice as long as the width should be avoided, since they may create unwanted resonance.
Placement of the subwoofer	The placement of the subwoofer in the room dramatically affects the overall frequency response and sound level of the system. At low frequencies the effect of the room is strong. Even a slight change in the subwoofer's location can make a significant difference in the frequency balance. Patience and methodical experimentation is needed to find an optimal placement. The placement affects the phase difference between the main loudspeakers and the subwoofer. One basic rule is to place the subwoofer together with or near the front system (especially important if the front loudspeaker also propagate bass frequencies) as this will minimize the risk of phase eliminations in the room.

Cables	Try to keep them as short as possible. By its electrical parameters, a long conductor will have a bigger influence on the sound than a short one. It may also work as an antenna and thus receive various signals that may become a constant noise in an active subwoofer. Make sure that all connections are clean and not oxidized. All connections should be mechanically stable, both power, signal and loudspeaker cables. Signal cables should be separated from other cables.	
Front speakers	To get the best result the front speakers should be placed symmetrical in front of the listener. The distance between the front speakers should be around 80% of the distance to the listener. In other words, the recommended angle between the front speakers should be 45°.	
Why use 2 Subwoofer	There are more then one benefits of having 2 subwoofers instead of one. The sound pressure level will be higher. Less dips and standing waves in the room and a better frequency response in the room (and on sweet spot) The need of power is less, to reach the same SPL as with one subwoofer	
Finally	Please remember that good sound is a matter of taste, so you have to experiment to obtain your favourite one. We wish you best of luck!	

Mounting and Connecting tips

Mounting alternatives	Normally the XTZ 99.38 is placed standing by a wall. The wall behind and besides the loudspeaker have influence both on the bass level and the bass characteristics, so please be patient and try different distances to the rear and side walls.	
Connect using the correct phase	Always connect using the correct phase, from the +-pole on the amplifier to the +-pole on the loudspeaker and corresponding for minus (-).	If you by accident connect the other way, there is no risk of damage. However, the sound will not be correct, especially in the lower frequencies.
Overload	At high load during extensive time periods, there is always the risk of overloading the driver and amplifier.	All loudspeakers have a limited patience for high power, so be careful not to play extremely loud and not to increase treble or bass settings to much. By increasing the bass or treble from 0 to max you will increase the power by about 16 times.
The initial playing time	It takes about 50 to 100 hour of initial playing time, for the driver to sound optimal. During this time, the speaker may be used normally.	

Room Tuning - Mechanical adjustment of the boundary frequency

By using the supplied bass plugs in the bass reflex gates, you can alter the lower boundary frequency on the XTZ 99.38

The level can be adjusted in 6 different levels in the bass range.

Also the treble level may be adjusted, which allows you to perfectly alter the sonic to fit the room, equipment and your own taste.

The speaker is parted in two bass reflex chambers, one for the midrange / woofer driver and one for the woofer. The uppermost gate is for the midrange/woofer while the two lowermost gates are for the woofer.

The figure below illustrates three basic settings.

Deep bass
With one bass plugs in lower of the two lower gates you have the deepest possible bass, which may be suitable for smaller rooms.
This is under the condition that the bass level is set at mode 2 (+3dB)

"Quick" bass
Without bass reflex plugs in the gates, you have a "quick" bass which is especially suitable for large rooms where the lower frequencies often are amplified by the room.

Neutral bass
With two plugs in two gates you have a flat frequency response.

This is under the condition that the bass level is set at mode 1 (0dB)

This setting also depends on the size and shape of the room, and also on your own taste, so please has patience when trying out your preferred setting.

This schematic picture (which does not shown actual measured curves) elucidates the different sonic characteristics of the bass frequencies.

Basic setting for neutral bass reproduction

Since the acoustics is determined by a wide range of external factors there exists no single neutral setting that will work properly for all cases. External factors that have influence on the sound include the room, the placing, output levels etc.

One basic neutral setting for an average room of 20m² is:

Two bass plugs in two of the two lowermost gates and one plug in the gate for midrange.

Bass level set at mode 1 (0dB)
Treble level set at mode 1 (0dB)

Level adjustment in the treble range

In the treble range the level is adjustable in four different modes using the supplied loop connector.

Level adjustment in the treble range:

Mode 1/ 0dB
In this mode the sound is neutral with a flat frequency response.

Mode 2/ +3dB
In this mode the treble level is increase by 3dB.

Mode 3/ -2dB
In this mode the treble level is decreased by 2dB.

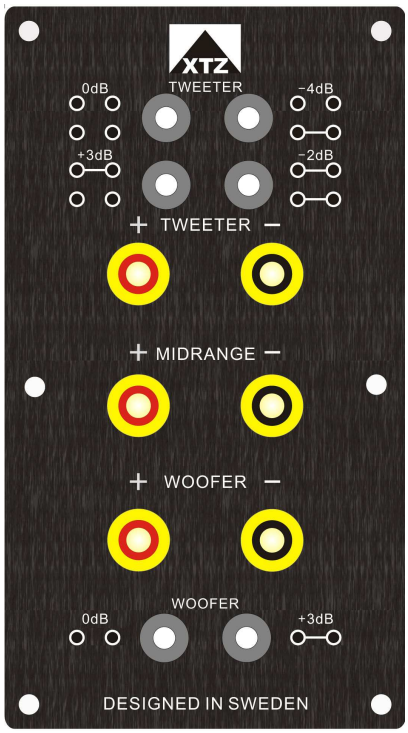
Mode 4/ -4dB
In this mode the treble level is decreased by 4dB.

In the bass range the level is adjustable in four different modes using the supplied loop connector.

Level adjustment in the bass range:

Mode 1/ 0dB
In this mode the sound is neutral with a flat frequency response.

Mode 2/ +3dB
In this mode the bass level is increase by 3dB



Binding post / Biwiring

1. Upper terminal + mid+ lower terminal (loops present)
Default setting, the loudspeaker is fed with the entire frequency range.

Without the loop between upper and lower terminal:

2. Upper terminal. The signal is only fed to the tweeter.

3. Mid terminal. Now the signal is fed to the midrange only.

4. Lower terminal. Now the signal is fed to the woofer only.
.

Technical specifications

Construction type	3-way with separates boxes for woofer and Woofer/midrange. Bass reflex cabinet that may be set as a closed box, and a total of two distinct bass modes (Room Tuning). The treble and bass levels are adjustable.	
Dimensions	220 x 1070 x 400 mm (W x H x)	(with front cover)
Weight	29 kg /pcs	
Magnetically shielded	No	
Impedance	4-8 ohm	
Binding post	Gold plated bi-wiring / Banana plug / Pole screw	
Efficiency	90dB	
Power	500 W Short term IEC 268-5 200 W Long term IEC 268-5	
Tweeter driver	Ribbon tweeter, SACD/DVD-Audio-ready, Sandwich ribbon cone in aluminium, neodymium magnets, chassis made in ceramic carbon steel.	
Woofer/midrange driver	6,5" SEAS Excel, Magnesium driver, moulded "high flow" driver basket, powerful magnet. Weight 1900 gram.	
Woofer	10” Aluminium cone, aluminium frame, High flow basket, 3kg magnet. Total weight 4kg.	
Connections and settings	• Gold plated biwiring. • Bass reflex, can be set to closed box (Room Tuning). • The bass can be set to eight distinct modes using the supplied bass plugs • The treble level is adjustable in 4 different modes. • The bass level is adjustable in 2 different modes.	

Service & support

"Do-It-Yourself"-service	We apply "do-it-yourself" service on all XTZ products. If you by yourself are able to find out what part of the loudspeaker is defective, you are fully allowed to unmount that part (which would normally be a driver, a filter or the amplifier) and send it back to us for exchange. However, if you are not certain about how to do it, please contact us before taking the loudspeaker apart. We can also help you finding the fault. You can of course always choose to return the whole loudspeaker; therefore you should save the original package.	To aid service, XTZ products are constructed and produced using common technology, so that basically most people are able to "unscrew" the loudspeaker using common tools.
If something is broken	If you cause additional defects by yourself when unmounting the defective part, the warranty still applies if it is obvious that the part had a manufacturing defect. In other cases however, the warranty does not apply if you cause other defects on the loudspeaker.	
Where to send the product for a warranty repair	For service we refer to your retailer. For questions regarding service, contact us by email support@xtz.se Web page: **www.xtz.se**	ALWAYS pack the product / part very carefully. Unfortunately damages during transportation are very common. If the package is weak, the transporting company does not compensate damages. Always enclose a copy of the receipt and a description of the defect.
Support	Please contact our free of charge support if you need installation advice, or if any problem occurs during the installation. Contact us by e-mail support@xtz.se and include your phone number if you wish verbal help, and we will call you back.	